

(12) **United States Patent**  
**Hunt**

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(54) **PHONE ADAPTER FOR OPTICAL DEVICES**

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(52) **U.S. Cl.**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57)

**ABSTRACT**

An adapter that optically couples a camera on a mobile device to an eye piece of an optical device. The adapter includes a base plate configured to retain the mobile device without obstructing a display screen on the mobile device. The base plate includes an optical interface configured to attach to the eye piece of the optical device. A mounting structure is configured to secure the optical interface to the eye piece of the optical device. The mounting structure includes a high friction interface that prevents rotation of the adapter relative to the eye piece. An adjustment system with threaded micro-adjust mechanisms is configured to move the base plate relative to the optical interface in at least two degrees of freedom to optically couple the camera on the mobile device with an optical axis of the eye piece. Images captured by the optical device are displayed on a viewing screen of the mobile device.

**20 Claims, 7 Drawing Sheets**

